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|--|-------------|----------------------|---------------------|------------------|
| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/573,768   | 03/29/2006  | Kantaro Yoshimoto    | NNA-223-B           | 9920             |
| 48980  | 7590        | 01/29/2009           | EXAMINER            |                  |
| YOUNG & BASILE, P.C.<br>3001 WEST BIG BEAVER ROAD<br>SUITE 624<br>TROY, MI 48084 |             |                      | STERRETT, JEFFREY L |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 2838   |             |                      |                     |                  |
| NOTIFICATION DATE  |             | DELIVERY MODE        |                     |                  |
| 01/29/2009   |             | ELECTRONIC           |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@youngbasile.com  
audit@youngbasile.com

|                              |  |   |
|------------------------------|--|---|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/573,768   | <b>Applicant(s)</b><br>YOSHIMOTO ET AL. |
|                              | <b>Examiner</b><br>Jeffrey L. Sterrett | <b>Art Unit</b><br>2838                 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1,4,5,8,9,12 and 13 is/are rejected.  
 7) Claim(s) 2,3,6,7,10,11 and 14-16 is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 24 April 2008 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 10/10/08 & 3/12/07

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. The information disclosure statement filed March 12, 2007 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

As noted on the provided copy of the IDS, WO 2005/119897 was not considered since only the front page of the document was provided instead of the complete document.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the voltage command value compared to the lower carrier and the voltage command value compared to the upper carrier as recited by claim 14 must be shown or the features canceled from the claim. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. Claims 1-18 are objected to because of the following informalities. Appropriate correction is required.

Claims 1-4 are confusing since in line 7 of claim 1 "the voltage command" lacks any antecedent basis.

Claim 3 is confusing since in line 2 "the lower carrier and the upper carrier" lacks proper antecedent basis. It is noted that for proper antecedent basis claim 3 should depend from claim 2 instead of claim 1.

Claims 5-8 are likewise confusing since in line 8 of claim 5 "the voltage command" lacks any antecedent basis.

Claims 9-12 are likewise confusing since in line 13 of claim 9 "the voltage command" lacks any antecedent basis.

Claims 13-18 are likewise confusing since in line 13 of claim 13 "the voltage command" lacks any antecedent basis. Additionally claims 13-18 are confusing since in

line 14 "said voltage command generating portion" lacks antecedent basis. Additionally claims 13-18 are confusing since in lines 12-13 "the switch between the positive and negative poles of the first DC power source" lacks antecedent basis. Additionally claims 13-18 are confusing since in lines 15-16 "the switch between the positive and negative poles of the second DC power source" lacks antecedent basis.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4, 5, 8, 9, 12, 13, 17, and 18 are rejected under 35 U.S.C. 102(a) as being anticipated by Kitajima et al (EP 1,615,325).

Kitajima et al discloses a power converter (figures 15, 33, and 39) comprising a first DC power source (220), a second DC power source (210), a common bus line connected to a positive pole of the first DC power source and to a negative pole of the second DC power source, a first plurality of semiconductor switches (the lower three transistor/diode pairs) connected between a negative pole of the first DC power source and each of three terminals of a three-phase load (240), a second plurality of semiconductor switches (the middle three transistor pairs) connected between the common bus line and each of the three terminals of the three-phase load, a third plurality of semiconductor switches (the upper three transistor pairs) connected between a positive bus line of the second DC power source and each of the three terminals of

the three-phase load, and a switch control portion (shown in various figures via structure and waveforms) that performs conductance of the switch between the positive and negative poles of the first DC power source when the voltage command from said voltage command generating portion is lower than the electric potential output by the second DC power source and performs conductance of the switch between the positive and negative poles of the second DC power source when the voltage command from the voltage command portion is higher than the electric potential output by the second DC power source.

8. Claims 1, 4, 13, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Shekhawat et al (US 4,670,828).

Shekhawat et al discloses a power converter (figure 1) comprising a first DC power source (E2), a second DC power source (E1), a common bus line (N) connected to a positive pole of the first DC power source and to a negative pole of the second DC power source, a first plurality of semiconductor switches (Q2, D2, Q4, D4, Q6, and D6) connected between a negative pole (14) of the first DC power source and each of three terminals of a three-phase load (VA, VB, and VC), a second plurality of semiconductor switches (16, 18, and 20) connected between the common bus line and each of the three terminals of the three-phase load, a third plurality of semiconductor switches (Q1, D1, Q3, D3, Q5, and D5) connected between a positive bus line (12) of the second DC power source and each of the three terminals of the three-phase load, and a switch control portion (24) that performs conductance of the switch between the positive and

negative poles of the first DC power source and performs conductance of the switch between the positive and negative poles of the second DC power source.

9. Claims 1, 4, 13, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Mikami et al (US 4,443,841).

Mikami et al discloses a power converter (figures 3, 7, and 8) comprising a first DC power source (22), a second DC power source (20), a common bus line (O) connected to a positive pole of the first DC power source and to a negative pole of the second DC power source, a first plurality of semiconductor switches (32) connected between a negative pole of the first DC power source and each of three terminals of a three-phase load (U, V, and W), a second plurality of semiconductor switches (38) connected between the common bus line and each of the three terminals of the three-phase load, a third plurality of semiconductor switches (26) connected between a positive bus line of the second DC power source and each of the three terminals of the three-phase load, and a switch control portion (shown in various figures via waveforms) that performs conductance of the switch between the positive and negative poles of the first DC power source and performs conductance of the switch between the positive and negative poles of the second DC power source.

10. Claims 2, 3, 6, 7, 10, 11, and 14-16 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koenig et al (US 4,894,621) and Kobayashi et al (US 2002/0048181) are cited to show power converters old and known in the art at the time of the invention.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Sterrett whose telephone number is (571) 272-2085. The examiner can normally be reached on Monday-Thursday & 7:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm E. Ullah can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey L. Sterrett/  
Primary Examiner, Art Unit 2838